

SYNTHESIS OF ALIPHATIC 1,3-DIOLS UTILIZING REDUCED LIGAND
CONCENTRATION AND WATER EXTRACTION

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Abstract of the Invention

10 This invention is a process for synthesizing
aliphatic 1,3-diols in one step by hydroformylation and
hydrogenation of oxirane, carbon monoxide, and hydrogen
employing a catalyst comprising a cobalt carbonyl
15 compound and a cocatalyst metal compound ligated with a
ligand in a ligand to cocatalyst metal atom molar ratio
in the range of 0.2:1.0 to 0.6:1.0, optionally in the
presence of a promoter, where recovery of product is
preferably accomplished via water extraction of a diol
20 rich phase from the bulk reaction mixture. The process
modifications can, particularly in combination, be
beneficial with respect to product recovery, catalyst
recycle, and overall economics of a one-step process for
producing aliphatic 1,3-diols.